

Psychological Monographs

General and Applied

No. 373
1954

Erland N. P. Nelson

Persistence of Attitudes of College
Students Fourteen Years Later

By

Erland N. P. Nelson

University of South Carolina

Price, \$1.00

Vol. 68
No. 2

Ψ

Edited by Herbert S. Conrad

Published by The American Psychological Association, Inc.

Psychological Monographs:

General and Applied

Continuation of the *Psychology Monographs and the Archives of Psychology*
and the *Psychological Monographs*

Editor

HERBERT S. CONRAD

Department of Health, Education, and Welfare
Office of Education
Washington 25, D.C.

Managing Editor

LORRAINE BOUTHILET

Consulting Editors

DONALD E. BAKER

FRANK A. BEACH

ROBERT G. BERNHARDT

WILLIAM A. BLOOMFIELD

HERBERT E. BRONFENBRENNER

JERRY W. CARLSON, JR.

CLAUDE H. COOPER

JOHN G. DANZIGER

JOHN F. DAUBENBERG

EUGENIA H. FARNHAM

ZENA HEDEBORG

HAROLD E. JONES

DONALD W. MACKINNON

LORRIN A. RIGGS

CARL R. ROGERS

SAUL ROSENZWEIG

ROSS STAGNER

PERCIVAL M. SYMONDS

JOSEPH TIFFIN

LEDYARD R. TUCKER

JOSEPH ZUBIN

MANUSCRIPTS should be sent to the Editor.

Because of lack of space, the *Psychological Monographs* can print only the original or advanced contributions of the author. Background and bibliographic materials must, in general, be entirely excluded or kept to an irreducible minimum. Statistical tables should be used to present only the most important of the statistical data or evidence.

The first page of the manuscript should contain the title of the paper, the author's name, and his institutional connection (or his city of residence). Acknowledgments should be kept brief, and appear as a footnote on the first page. No table of contents need be included. For other directions or suggestions on the preparation of manuscripts, see: CONRAD, 1953, Preparation of manuscripts for publication in monographs. *J. Psychol.*, 44, 17-159.

Correspondence concerning BUSINESS MATTERS (such as author's fees, subscriptions and sales, change of address, etc.) should be addressed to the American Psychological Association, Inc., 1200 17th Street, N.W., Washington 6, D.C. Address changes must arrive by the 1st of the month to take effect the following month. Undelivered copies resulting from address changes will not be replaced; subscribers should notify the post office that they guarantee third-class forwarding postage.

Copyright, 1953, by THE AMERICAN PSYCHOLOGICAL ASSOCIATION, Inc.

Persistence of Attitudes of College Students Fourteen Years Later

Erland N. P. Nelson¹

University of South Carolina

I. INTRODUCTION

Do student attitudes indicated on paper-pencil tests given in college tend to persist over a period of years? Will college attitudes toward social, political, and economic issues persist through a World War, cold wars, added age, marriage? Do differences in attitudes between various college groups persist 14 years later? Do regional differences in conservatism tend to perpetuate themselves among graduates of more than a decade ago? What is the relation between attitude shifting and such factors as advanced age of the ex-student, sex, marriage? If attitude shifts occur over the period of 14 years, do they

follow a trend or direction—as toward conservatism or liberalism? Is there any relation between sociopolitical attitudes indicated in college and certain behavioral characteristics years later?

For the kind of questions raised above, a longitudinal approach in which subjects are tested and later retested with the same or similar instruments can provide useful evidence. The present report is based on a study of the relationship between social-economic-political attitudes held in college in 1936 and the shifts or persistence of attitudes among the same subjects in 1950.

II. PROCEDURE

The 1936 Phase

This study originated in 1936 with measurement of conservative-radical attitudes among students at 18 colleges and universities (7). For the purpose of this study, conservative attitudes are considered those which tend to retain *status quo*. Since attitudes on a conserva-

tive-radical continuum involve not one or two issues, but a wide variety of areas, this study is based upon responses to 60 controversial items toward which a subject might take a conservative or liberal view. The following issues are typical of the items in the test used in this study: free trade, science and religion, interracial relations, private enterprise, government ownership of natural resources, a world organization of nations. For this investigation, we have used the Lentz C-R Opinionnaire, Form K in both test and retest (6). The midpoint of the scale is 30; scores higher than 30 tend toward conservatism, and those lower, toward radicalism. Reliability on retests ranged

¹ Acknowledgment is made to: hundreds of ex-students who cooperated; Dr. Theodore F. Lentz for use of the C-R Opinionnaire; alumni offices for addresses of their ex-students; Dr. D. A. Worcester, University of Nebraska, in whose department this study originated; Dr. M. K. Walsh for cooperation on the second phase of the study; the University of South Carolina for research funds; and my wife, Naida, for help with heavy correspondence and statistical work.

from .90 to .94. Validity is based on self-ratings, judges, and overt acts—all in groups additional to the present subjects (5).

In this study, we have not ignored the possible influence of signing or nonsigning of attitude scales. Elinson and Haints (4) found anonymity a factor when enlisted men responded to questionnaires given in the Army. Signers showed more favorable attitudes from a military point of view. However, it is not clear whether signing scales influenced attitudes expressed or whether favorable attitudes lead to signing the scale. In areas more closely related to the present study, Ash found that on political, economic, and racial issues his subjects were not biased either way by signing or nonsigning of attitude questionnaires (1). Corey (3) likewise found anonymity unnecessary in attitude study. Nevertheless, in the present study, certain precautions were taken:

1. In both the 1936 and 1950 phases, subjects were encouraged to indicate attitudes frankly, with or without signing names.

2. In the 1936 study, it was made clear that the student's attitude could in no way affect his standing at his college since the unscored papers would be sent directly to the writer and held strictly confidential.

3. As an additional device, a supplementary test was added calling for attitudes toward the college or university then attended. If restraint were to be felt anywhere, it should be on making unfavorable comments concerning one's own college. Yet, on this device to "test the test" signing or nonsigning seemed unrelated to criticism of his college or university.

In September and October of 1936 our test booklets were administered to a total of 3,758 students then attending 18 colleges and universities. These subjects were mainly from liberal arts colleges and from teachers colleges. They included men and women students from the four classes, freshman to senior. The institutions included four state univer-

sities, three of which are located in the Midwest and one in the South. Of the 12 denominational colleges, six are Lutheran, two are affiliated with the Society of Friends, and one institution is connected with each of the following: Methodist, Presbyterian, Seventh Day Adventist, and United Brethren. Two of the denominational colleges are east of Chicago, one is in the South, and the others are in the Midwest.

The 1950 Phase

By September 1950, the author had secured the cooperation of 16 of the original 18 colleges and universities. Through their alumni offices we had procured the known addresses of persons tested as students in 1936. Although some had died, some were in hospitals and unavailable, and others were killed in World War II, a far greater number had simply failed to keep alumni offices posted as to rapidly changing addresses. The inability of alumni offices to furnish valid addresses reduced the number to 1,500 subjects. By the time our booklets were mailed, accurate current addresses had been reduced to 1,200. Of these 1,200 who presumably received the 1950 test booklets, a total of 901 completed the tests and returned them in time for our calculations. Booklets were returned from subjects in every state in the Union, from Alaska, South Africa, Liberia, most countries of Europe, Asia, and South America. Occupationally the respondents in 1950 included 65 ministers, 180 teachers, 198 business men and women, 37 physicians, and 85 in other professions. The group included authors of books, university professors, federal officials, enlisted men and officers, and one bartender.

In presenting this study, the scores of the 901 ex-students are compared with

their own 1936 scores—not with the means for the larger group. Hence, whether the 901 respondents in 1950 are representative of the larger number tested in 1936 is not crucial to the present study. All 1936 data have been recalculated on the basis of the identical 901 who responded in 1950. We shall present mean differences and percentage of attitude shifts for these same 901 persons on the same tests after the 14 intervening years.

Nevertheless, to evaluate the extent to which this group might represent the universe, two methods were employed.

1. The 1936 scores of the 901 subjects who responded in 1950 were compared with the scores for all 3,660³ students in 1936, with the following results: 901 respondents on 1936 tests—mean, 32.20; 3,660 subjects on 1936 tests—mean, 33.05. When corrected for the sex differences due to elimination of one conservative woman's college, the difference between respondents and the entire group was reduced to .65, significant only at the 2% level. While slightly more liberal, the 1950 respondents seem not unrepresentative of

the larger group in 1936.

2. After nearly 800 booklets had been received in the fall of 1950, two mail "urgings" were sent out which brought 108 "stragglers" who responded after February 1, 1951. These were dated and marked for separate study. If these "stragglers" did not differ significantly from the early respondents who had cooperated without such urgings, it might be assumed that the other 300 who failed to get our booklets or who neglected to return them would likewise not differ significantly from the 901 who responded. Comparisons were made three ways with the following results:

	1936 Mean	1950 Mean	Diff.
"Stragglers"	32.29	30.50	1.79
Early respondents	32.20	30.48	1.72
Difference .....	.09	.02	.07

In none of the three ways, 1936 means, 1950 means, and differences in mean changes, was the difference between "stragglers" and early respondents significant. Thus the data from these devices fail to support any hypothesis that selective factors could account for the test and retest results to be presented.

III. RESULTS

Four State Universities

For these four institutions, the means for both 1936 and 1950 are above the midpoint of the scale and represent slight conservatism. The mean change (1.02), which is in the direction of liberalism, is likely to occur by chance less than 8 times in 100. (See Table 1.) Whereas higher conservatism is usually accompanied by greater homogeneity as measured by the standard deviation, here the more liberal 1950 attitude patterns show the greater homogeneity.

Since a comparison of means may con-

ceal attitude changes—shifts toward conservatism and shifts toward liberalism may offset each other—the number and percentage of individuals shifting in each direction are presented. These individual shifts are shown at the right side of Table 1. "No shift" means failure to shift by so much as three points on the 60-point scale. It will be noted that the no-shift or "standpatters" constitute 15% of these former university students. Whatever view may be taken of the 15% who did not substantially change their scores in 14 years, our data give no support to any hypothesis that standpattism is a function of either conservatism or liberalism. The "standpatters" range from a radical score of 9 to a conserva-

³One woman's college unwilling to cooperate in the 1950 follow-up was also eliminated from the 1936 number and means.

TABLE 1
CONSERVATIVE-RADICAL ATTITUDES AT FOUR STATE UNIVERSITIES COMPARED WITH
ATTITUDES OF THE SAME SUBJECTS 14 YEARS LATER
($N=190$)

Group Change						Individual Change		
Year	Mean	SE	Diff.	r	SE	Shift	N	%
1936	31.64	.61		1.02*		No shift	29	15
1950	30.62	.57				Toward C	66	35
						Toward R	95	50

* $p < .08$.

tive 45, each largely unchanged by the intervening 14 years. But attitude shifts are far more numerous. Whereas 35% shifted toward conservatism, 50% shifted toward liberalism. Thus attitude changes after university days have been in the general direction of greater liberalism as indicated both by differences in mean scores and by number and percentage of subjects shifting position on the same test.

Institutional differences among these state universities are still discernible among their ex-students, as seen in Table 2. Students at University B (Southern) were more conservative than the others in 1936. As ex-students in 1950 they are still more conservative than ex-students from two of the Midwestern universities in spite of the fact that 54% of the Southern conservatives had shifted by at least three points toward liberalism.

That attitude tests given in college

are related to attitudes of 14 years later is shown by the percentage of nonshifters and by the Pearson product-moment r of .52 between scores of 1936 and 1950, a significant positive relation.

Six Lutheran Colleges

Five of the Lutheran colleges had 1936 enrollments below 600; one had an enrollment above 1,000. It will be seen in Table 3 that the 1936 mean, 34.15, with SE of .36, indicates strong conservatism among the 360 persons tested while they were in the Lutheran colleges. The mean for these colleges is significantly more conservative than the mean of 31.61 at the four state universities. But by 1950 the ex-students from Lutheran colleges had shifted toward liberalism, so that the 1936-1950 difference of 3.22 in means was almost nine times the standard error of .35 ($p < .003$). Although the difference in mean change toward liberalism among the Lutheran college ex-students

TABLE 2
ATTITUDE DIFFERENCES AMONG FOUR STATE UNIVERSITIES AND
AMONG THEIR EX-STUDENTS 14 YEARS LATER
($N=190$)

University	N	1936		1950		Diff.	p	No Shift (%)	Shift to C (%)	Shift to R (%)
		Mean	SD	Mean	SD					
A	49	34.55	6.78	31.55	8.01	3.00	.006	18	25	57
B	33	34.9	6.87	34.45	7.5	.45	NS	12	34	54
C	86	28.84	8.91	28.56	7.55	.28	NS	15	42	43
D	22	32.64	6.96	31.84	6.84	.80	NS	14	36	50

TABLE 3
CONSERVATIVE-RADICAL ATTITUDES AT SIX LUTHERAN COLLEGES COMPARED WITH
ATTITUDES OF THE SAME SUBJECTS 14 YEARS LATER
($N=360$)

Year	Mean	SE	Group Change			Individual Change		
			Diff.	<i>r</i>	SE	Shift	<i>N</i>	%
1936	34.15	.36				No shift	65	18
1950	30.93	.34	3.22*	.50	.05	Toward C	99	28

* $p < .003$.

is nearly three times greater than that of the ex-students from state universities, the Lutheran group remains slightly more conservative (not statistically significant).

Again, the more meaningful data concern the actual number and percentage of persons who shifted to new positions over the 14 years following the tests in college. Of this group of 360 subjects, 18% did not shift on the retest by so much as three scale points; 28% shifted toward greater conservatism; and 54% shifted toward liberalism. Compared with the universities, ex-students from Lutheran schools showed 7% less shift toward conservatism and 4% more toward liberalism.

Institutional differences obtain among the Lutheran colleges. As seen in Table 4, College G had the highest conservatism among students in 1936, with a

mean of 38.26. Since College G is located in the South, we again have evidence pointing to persistence of regional factors. But after 14 years, the ex-students from G had changed in the direction of liberalism, as seen by the 1936-1950 difference of 3.88 in means. This is not only a significant change ($p < .001$), but it is the greatest 1936-1950 difference shown by any of the 16 institutions included in the entire study. However, in spite of this marked change, the ex-students from G still remain more conservative than those from any other Lutheran college, with a mean of 34.38. Four of these institutions showed less homogeneity among ex-students in 1950 than on the initial test given in college, as shown by the standard deviations. As might be expected, the already conservative students at G showed the smallest percentage of shift toward conservatism

TABLE 4
ATTITUDE DIFFERENCES AMONG FIVE LUTHERAN COLLEGES AS COMPARED WITH DIFFERENCES
AMONG THEIR EX-STUDENTS 14 YEARS LATER
($N=352$)

College*	<i>N</i>	1936		1950		Diff.	<i>p</i>	No Shift (%)	Shift to C (%)	Shift to R (%)
		Mean	SD	Mean	SD					
E	77	34.33	7.09	31.63	5.75	2.70	$< .001$	23	25	52
F	36	35.50	5.16	32.83	5.64	2.67	$< .001$	17	25	58
G	55	38.26	5.49	34.38	6.27	3.88	$< .001$	24	20	56
H	92	31.93	6.45	30.43	6.60	1.50	$< .045$	15	38	47
J	92	33.18	6.9	30.04	7.32	3.14	$< .001$	12	26	62

* College I omitted because of small *N*.

TABLE 5
CONSERVATIVE-RADICAL ATTITUDES AT SIX OTHER DENOMINATIONAL COLLEGES COMPARED
WITH ATTITUDES OF THE SAME SUBJECTS 14 YEARS LATER
(N=351)

Year	Group Change					Individual Change		
	Mean	SE	Diff.	r	SE	Shift	N	%
1936	30.58	.40	1.20*	.63	.05	No shift	61	17
1950	29.38	.39				Toward C	118	34

* $p < .001$.

and the highest percentage of no-shift.

The following data support the hypothesis that paper-and-pencil scales of opinion given in college are related to attitudes 14 years later. (a) Institutions with high means among students also show high means among ex-students. (b) The 18% who did not shift indicate stability. (c) The Pearson product-moment r of .50 indicates a correlation significantly greater than zero. As compared with pure guess as to 1950 scores, this correlation would reduce the error of estimate by approximately 14%. Differences between students in different institutions tend to persist, though time reduces these differences to some extent.

Six Other Denominational Colleges

In this group, the Methodist, United Brethren, Presbyterian, and Seventh Day

Adventist are each affiliated with one college, and the Society of Friends is affiliated with two. Since certain of these denominational groups adhere to views differing markedly from *status quo* on some civic and social issues, less conservatism may be expected. The 1936 mean for the entire group of 351 students was 30.58, approximately the midpoint of the scale. By 1950 the mean had declined to 29.38, a difference of 1.20, which is significant at less than the 1% level. (See Table 5.) Again, the change during the 14 years after college is in the direction of greater liberalism. While these ex-students changed toward liberalism by only 1.2 points as compared with the Lutheran change of more than 3 points, they still retain their lead in liberalism. In the actual shifts of attitude scores, it is interesting to note that

TABLE 6
ATTITUDE DIFFERENCES AMONG SIX OTHER DENOMINATIONAL
COLLEGES AND AMONG THEIR EX-STUDENTS
14 YEARS LATER
(N=333)

College*	N	1936		1950		Diff.	p	No Shift (%)	Shift to C (%)	Shift to R (%)
		Mean	SD	Mean	SD					
Methodist	93	29.16	7.53	27.77	8.04	1.39	NS	10	39	51
Friends	93	27.58	8.48	27.74	8.03	.16	NS	17	42	41
Brethren	32	32.22	5.40	29.92	6.32	2.30	.07	25	28	47
Presbyterian	78	32.80	7.40	31.51	6.36	1.29	NS	17	32	51
Adventist	37	36.04	5.04	33.34	5.79	2.70	.012	24	22	54

* College M omitted owing to small N.

TABLE 7
ATTITUDES AMONG STUDENTS AT 16 COLLEGES AND UNIVERSITIES IN 1936
COMPARED WITH THOSE OF THE SAME SUBJECTS 14 YEARS LATER*

Scores, 1936	Scores in 1950														Total	
	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51
51	...	...	...	...	1	...	...	...	1	1	2	1	...	...	...	4
48	...	...	...	...	...	...	...	...	1	1	2	2	1	...	...	8
45	...	...	...	...	1	...	1	4	7	6	...	5	2	...	1	27
42	...	...	...	1	...	...	...	6	15	11	5	7	1	...	...	46
39	...	...	...	1	6	11	13	19	25	17	4	4	...	1	...	101
36	...	...	2	6	9	20	18	30	26	8	6	1	...	...	...	126
33	...	2	4	8	17	21	31	27	17	19	5	1	...	...	...	152
30	...	1	4	9	14	30	10	26	19	11	3	...	...	...	...	131
27	...	1	2	10	16	16	23	22	19	10	4	...	...	...	...	123
24	...	3	2	4	14	8	9	10	7	4	...	1	...	...	...	62
21	...	1	3	2	14	10	11	9	5	...	...	...	...	...	...	55
18	1	1	2	1	7	8	4	1	3	...	1	...	...	...	...	29
15	...	3	3	7	2	1	...	3	...	...	...	...	...	...	...	19
12	...	1	3	3	2	1	...	...	...	...	...	...	...	...	...	10
9	2	1	1	...	2	1	...	...	...	...	...	...	...	...	...	7
6	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total	2	4	15	21	41	80	87	128	139	150	122	67	33	10	0	901
Year	Mean	SE	SD	Diff.	<i>r</i>	SE		Shift	<i>N</i>	%						
1936	32.20	.24	7.65		.72†	.57	.033	No shift	159	18						
1950	30.48	.25	7.35					Toward C	283	31						
								Toward R	459	51						

* $N = 901$.

† $p < .001$.

although this group as a whole was more liberal in 1950 than either the group from state universities or the one from Lutheran colleges, it had a smaller percentage of individuals shifting toward liberalism.

The wide differences between institutional groups are shown in Table 6. The 1936 means range from 27.58 for a Friends college to 36.04 for an Adventist college. The students from the Adventist college, the most conservative of all groups both in 1936 and in 1950, were the only group to shift toward liberalism by a difference significant at the 1% level. This college also showed the greatest percentage of ex-students shifting toward liberalism and the smallest toward conservatism during postcollege years. The relation between the test given in college and the retest given 14

years later is shown by the Pearsonian *r* of .63, *SE* = .05, the highest *r* among the three groups.

In comparing the three college groups on the 1936 tests, we note that the Lutheran group scored higher on conservatism than either of the other two groups (*p* approximately .005). When in 1950 the ex-students are again grouped into the three categories according to type of college attended, the Lutheran group is again slightly, but significantly, higher in conservatism (*p* < .003). As could be expected, institutional differences within groups were greater than were differences between the means of the groups.

Data from state universities and from Lutheran colleges indicated persistence of regional factors.

Summation—901 Students at 16 Colleges and Universities

In Table 7 we have summarized the shifts and changes made by the entire group of 901 ex-students after the 14 intervening years. The two diagonal lines enclose the scores of the 159 subjects who did not shift by so much as a three-point interval. Above the diagonals are the scores of the 459 individuals who shifted toward more liberal scores; below are the scores of those who shifted toward conservatism. Thus it is convenient to note not only the percentage and the direction of shift, but also the degree.

For the entire group, the 1936 mean of 32.20 has declined to 30.48 by 1950, a difference seven times greater than the standard error. However, the 1950 mean is still on the conservative side of the scale.

Much has been published in popular media concerning alleged radicalism among both professors and students in college. Investigations have been ordered, loyalty oaths imposed. In 1936 we found among these students only 66 (7% of the group) at the lowest or "radical" end of the scale with scores between zero and 20. At the reactionary end of the scale, we found 16%. Thus, there were more than twice as many at the conservative extreme as at the liberal end. But what of the ex-student in 1950? After the 14 years out of college, those in the "radical" area constituted 9%, 2% more than in 1936. At the "reactionary" end, 40 to 60, we find 10%, 6% less than in 1936. Three types of evidence in Table 7 indicate that there is a postcollege trend toward slightly more liberal attitudes.

1. Significant differences between the 1936 and 1950 means are in the direction of liberalism.

2. Of the total group 51% shifted toward liberalism and only 31% shifted toward conservatism.

3. Analysis of the extreme high and low scores shows a slightly larger percentage of "radicals" in 1950 (an increase of 2%), but a substantial decrease in the percentage of "reactionaries" (a decrease of 6%).

We turn now to the main question: Do student attitudes, as shown on paper-and-pencil tests in college, tend to persist over 14 postcollege years? That such attitudes do persist is supported by four types of evidence:

1. Of the 901 subjects, 18% did not change their attitude position by so much as three scale points on the 60-point scale, between test and retest.

2. Although the differences in means between 1936 and 1950 were significant, they were relatively small and indicate persistence.

3. The marked institutional differences of 1936 tended to persist among the ex-students of 1950.

4. A correlation of .57 between the test in 1936 (in college) and the retest in 1950 (postcollege) is further indication of the relationship between attitudes in college and those held more than a decade later. (While such a correlation is too low for individual prediction of future attitudes, the coefficient of alienation, $\sqrt{1-r^2}$, indicates that a correlation of .57 would reduce the error of estimate by 18%).

It is recalled that such persistence covers a period of 14 years involving the impact of wars and military service, marriage, children, occupational factors, age, etc.

The Sex Variable

In a study of 3,758 students (2,027 women and 1,731 men) at 18 colleges and universities, college women were found to be more conservative than college men (7). But does this greater conservatism among women persist through the years after college? Do sex differences in social and political attitudes tend to increase or decrease during postcollege years? For the present group of 444 males and 457 females, the 1936 difference was .88, which is significant only at the 7%

TABLE 8
ATTITUDE DIFFERENCES RELATED TO SEX, 1936-1950

Group Change					Individual Change		
Year	Mean	SE	Diff.	<i>r</i>	Shift	<i>N</i>	%
Male (<i>N</i> = 444)							
1936	31.76	.35	2.08*	.57	No shift	79	18
1950	29.68	.34			Toward C	136	31
					Toward R	229	51
Female (<i>N</i> = 457)							
1936	32.64	.37	1.39†	.58	No shift	80	18
1950	31.25	.35			Toward C	147	32
					Toward R	230	50

* $p < .001$.† $p < .001$.

level. But by 1950 the male-female difference had increased to 1.57 ($p < .002$). Thus sex differences have not only persisted but have increased over the post-college years. Although the women shifted toward liberalism, from a 1936 mean of 32.64 to a 1950 mean of 31.25 ($p < .001$), they were still more conservative than the men, who shifted from a mean of 31.76 in 1936 to 29.68 in 1950 ($p < .001$). (See Table 8.)

A comparison of the differences between means indicates that sex differences persist and even increase upon a 14-year retest, but the difference between the 1936-1950 correlations for the two groups is not significant. Nor are sex differences reflected in the number or percentages of individuals shifting. The percentage of nonshifters was 18 for both sexes. No essential difference appeared in the direction of shifting—32% of the men and 31% of the women shifted toward conservatism and 51% of the men and 50% of the women shifted toward liberalism. Sex apparently was a factor in the degree of change as measured by means, but not in the number of individuals who shifted.

The Age Factor

Contrary to the usual findings of increased conservatism with age, we have seen that the 14-year period after college testing was accompanied by a significant increase in liberalism. Is increased liberalism then a function of added maturity?

In order to test this hypothesis, a plan was devised which would, in effect, make age the independent variable with factors such as political, social, and economic conditions in the country held relatively constant. A control group was made up of 405 students enrolled at University B during the school year 1950-51. The ages of these controls approximated the ages of the subjects at University B who were given the initial tests in 1936. These 405 controls—regular students at B—were given the C-R Opinionnaire in September of 1950. Any difference between the 1936 students and the 1950 students would be compared with the changes in attitudes which occurred in the 1936 students during the 14-year interval between test and retest. If age is a significant factor in the trend toward liberalism already seen in this study, then the

TABLE 9
RELATION OF ATTITUDE CHANGES TO AGE DIFFERENCES

Year	College	Age	N	Mean	SE	Diff.
1936	16	College age	901	32.20	.24	
1950	16	14 years older	901	30.48	.25	1.72*
1936	B	College age	107	34.69	.65	
1950	B	College age	405	32.74	.33	1.95†

* $p < .001$.

† $p < .008$.

"controls" of 1950 should not show such liberal trends. But if increased liberalism is a function of other forces such as changes in cultural, social, economic, or political folkways, then the "controls" should differ from 1936 students in much the same way as the ex-students' 1950 scores differ from their 1936 scores.

The upper two rows in Table 9 show changes in means when age is varied by 14 years; the lower two rows show differences in means when the ages of the two groups are relatively unchanged. We have already seen the significance of institutional differences. Hence, the "controls" at University B are compared only with the 1936 students also at B. From the table it is seen that the "controls" of 1950, where age is approximately the same as that of the 1936 subjects, departed slightly further from the conservative mean of 1936 than did the 901 older ex-students. At University B the new generation of students in 1950 showed a mean score of 32.74—a difference of 1.95 ($p < .008$) from their 1936 counterparts. The 901 ex-students differed from their own 1936 means by 1.72. Both differences are significant at the 1% level and both are in the direction of liberalism. Since the "controls" differed somewhat more than the ex-students from the conservative 1936 means, we may reject the hypothesis that (for these subjects) liberal-

ism is a function of age. From our data we might also reject any hypothesis that the postcollege trend toward liberalism is somehow related to liberal viewpoints taught in colleges or universities. The "controls" who had only recently entered college were more liberal than the ex-students from University B. While our data do not suggest alternatives, the author ventures that wars, international organizations, travel, overseas obligations, political "new deals," and economic changes have become a part of the American folkways. In spite of nostalgic advertisements, perhaps America has moved toward liberalism—including college, noncollege, and postcollege citizens.

Marital Status

Of the 900 ex-students responding to this item, it is rather surprising to find that after 14 years, 102 had remained single. Is marriage a factor in persistence of social-political attitudes? While in college, are those who will remain single significantly different from others in their C-R attitudes? Do they become more liberal than married ex-students? In Table 10 it will be seen that those who remained single for 14 years after college did not differ significantly, at the time of the 1936 tests, from those who were to constitute the married majority. C-R attitudes in college were not related to

TABLE 10
MARITAL STATUS AS A FACTOR IN ATTITUDE PERSISTENCE

Group	N	Mean	SE	SD	Diff.
Married ex-students					
1936	798	32.22	.27	7.5	
1950	798	30.58	.25	7.18	1.64*
Single ex-students					
1936	102	32.09	.83	8.34	
1950	102	29.97	.73	7.33	2.12†
Diff. between groups					
1936					.13†
1950					.61†

* $p < .001$.

† Not significant.

† $p < .003$.

future marriage or nonmarriage. But both married and unmarried subjects changed significantly in the direction of liberalism as shown on the retest. While the single subjects moved further toward liberalism, the married-single differences in 1950 did not reach acceptable confidence levels.

Attitudes Related to Certain Types of Overt Behavior

While this investigation was concerned primarily with the relation of attitudes measured in college to attitudes measured 14 years later, the relation or non-relation to certain types of behavior is of interest (8, 10). Since the nonsignificant correlation coefficients may be as important as those which are statistically acceptable, we have listed both in Table 11. All correlation coefficients given are

biserial r 's except the last one—religion—which is the Pearson product-moment.

To discover the relationship between expressions of attitude and contemporary behavior is often difficult (2, 11, 12), but to expect to find relationships between paper-and-pencil tests in college and overt behavior 14 years later may be even less rewarding. We present five activities on which this was attempted:

1. Active participation in civic or community activities was reported by 567 of these subjects in 1950, while 333 declared they participated in none. The correlation, r_{bis} , between conservatism in 1936 and participation in 1950 was approximately .012. Differences in mean scores between participants and nonparticipants were not significant.

2. Of these 900 subjects in 1950, 699 reported that they had voted at least

TABLE 11
CONSERVATISM IN COLLEGE AND ACTIVITIES 14 YEARS LATER

Attitude in 1936	Behavior in 1950	r	SE
Conservatism	Civic activities	.012	.026*
Conservatism	% of time voting	.05	.05*
Conservatism	Democratic Party favored	.08	.07*
Conservatism	Independent parties	-.23	.05
Conservatism	Expression of attitude toward religion	.24	.037

* Not significant.

75% of the time in state and national elections; only 201 reported that they had voted less than 75% of the time. Voters were slightly more liberal than nonvoters, but the difference was not significant at the 1% level.

3. Of the 847 ex-students who indicated political party preference in 1950, 549 listed themselves as Republicans, 210 as Democrats, 88 as socialists, independents, or nonpartisans. College attitude means of those who later called themselves Republicans did not differ significantly from those who later called themselves Democrats. College conservatism and alignment with either of the major parties were not shown to be significantly interrelated. Perhaps the two major parties had obliterated clear-cut liberal-conservative distinctions by 1950; if so, the subjects may have been unable to express attitudes in terms of party preference.

4. Using biserial r with the two old political parties on the one hand and the socialist-independent groups on the other, we find a significant negative relationship ($-.23$, $SE = .05$) between 1936 conservative attitudes and preference for the socialist-independent groups.

5. Conservatism in attitudes on social-political issues was significantly related to subject reaction on the Thurstone test on "Attitudes Toward God—A Reality" (13) as indicated by a Pearson product-moment r of $.24$, $SE = .037$.

While correlations between college attitudes and the samples of overt behavior presented were largely negligible, the one clear-cut sample of behavior—alignment with socialist or independent political parties—was significantly related to liberalism on the college test 14 years earlier. The correlation, $.23$, was more than four times the SE .

IV. SUMMARY

1. That student attitudes shown in college tend to persist through post-college years was supported by four lines of evidence:

a. The 159 ex-students (18%) who did not show a test-retest attitude change of at least 3 points indicate a high degree of persistence.

b. While significant, the difference in means between 1936 test and 1950 retest was relatively small, indicating persistence.

c. The product-moment test-retest correlation of $.57$ shows a significant degree of persistence.

d. Persistence of institutional differences among ex-students in 1950 was shown.

2. Differences between individual institutions were greater than between types

of institutions in 1936 and in 1950.

3. Regional differences in conservatism were apparent in 1936 and among the ex-students in 1950. Subjects who had attended institutions in the South tended to remain slightly more conservative during the 14-year interval.

4. That there had been a postcollege trend toward more liberal attitudes during the 14 years was supported by the following evidence:

a. Significant differences between 1936 and 1950 means were in the direction of greater liberalism.

b. Of the ex-students, 51% shifted toward liberalism, as contrasted with only 31% who shifted toward conservatism.

c. Analysis of "extreme" scores shows a slight increase (2%) in percentage of

"radicals" by 1950, as contrasted with a decrease (6%) in "reactionaries."

5. Subject to exceptions, attitude changes from 1936 to 1950 seemed to follow a general pattern—subjects who were conservative in college tended to shift toward liberalism further than did college liberals, thus decreasing the difference between the two groups.

6. Sex seemed to be a factor in the degree of change toward liberalism but not in the number of subjects shifting.

7. In contrast to the usual report of increased conservatism with age, we find among these subjects increased liberalism with the 14 years of added age. However, through use of a control holding age relatively constant, it appears that neither liberalism nor conservatism was a function of age.

8. While unmarried ex-students shifted

further toward liberalism than married subjects, the effect of marriage on social-political attitudes was not statistically significant.

9. The possible relationship between social-political attitudes in college and certain samples of overt behavior 14 years later was investigated. Between conservatism in college in 1936 and 1950 participation in civic activities, the percentage of time voting in state and national elections, and membership in the Republican party, we found no correlations of statistical significance. But a significant negative correlation was found between college conservatism and 1950 membership in socialist or other independent political parties. A significant positive correlation was found between college conservatism and attitudes toward God in 1950.

REFERENCES

1. ASH, P. Effect of anonymity on attitude questionnaire response. *J. abnorm. soc. Psychol.*, 1950, **47**, 722-723.
2. BOGUE, D. J. The quantitative study of social dynamics and social change. *Amer. J. Sociol.*, 1952, **57**, 505-566.
3. COREY, S. M. Signed versus unsigned attitude questionnaires. *J. educ. Psychol.*, 1937, **28**, 144-148.
4. ELINSON, J., & HAINES, VALERIE T. Role of anonymity in attitude surveys. *Amer. Psychologist*, 1950, **5**, 315. (Abstract)
5. LENTZ, T. F. Reliability of opinionnaire technique studied by retest method. *J. soc. Psychol.*, 1934, **5**, 338-364.
6. LENTZ, T. F., et al. *Manual for C-R Opinionnaire*. St. Louis: Character Research Institute, Washington University, 1935.
7. NELSON, E. Radicalism-conservatism in stu-
dent attitudes. *Psychol. Monogr.*, 1938, **50**, No. 4 (Whole No. 224).
8. NELSON, E. Social attitudes. *J. gen. Psychol.*, 1939, **21**, 401-416.
9. NELSON, E. Student attitudes toward the college now attended. *Sch. & Soc.*, 1938, **48**, 443-444.
10. NELSON, E., & NELSON, NAIDA. Student attitudes and vocational choices. *J. abnorm. soc. Psychol.*, 1940, **35**, 279-282.
11. OTIS, W. M., JR. Improvement of attitude research. *J. soc. Psychol.*, 1951, **33**, 143-146.
12. PACE, C. R. Validity of attitude measurement. *Educ. psychol. Measmt.*, 1950 **10**, 411-419.
13. THURSTONE, L. L., & CHAVE, E. J. *The measurement of attitude*. Chicago: Univer. of Chicago Press, 1929.

(Accepted for publication November 28, 1953)

CHOCOLATE MATERIALES CORTAFI